

• PAARA NEWSLETTER •
VOLUME 45 • NUMBER 1 • January 1996

PAARAgraphs

Since 1937

Monthly Newsletter for the Palo Alto Amateur Radio Association, Inc.



Calendar

January 5, PAARA Meeting, 7:30

Menlo Park Recreation Center
700 Alma Street, Menlo Park 7:30-9:30 PM

January 17, PAARA Board Meeting

Red Cross Bld. 400 Mitchell Ln., Palo Alto, 7:30 P.M.

January 20-21(UTC), ARRL VHF Sweepstakes

January 27-28(UTC), CQ WW CW 160M Contest

February 2, PAARA Meeting, 7:30

February 17-18(UTC), ARRL CW DX Contest

February 21?, PAARA Board Meeting

February 24-25(UTC), CQ WW SSB 160 Contest

March 1, PAARA Meeting, 7:30

March 20, PAARA Board Meeting



Program

January 5, 1996

Speaker:

Bud Frazee, KN6QQ, of Livermore

Sailboat captain

"South Pacific Pactor Maritime Mobile".

**IT'S
ALL
YOURS!**



DX The CW CQ World Wide DX contest of 1995 has come and gone, but the ARRL has announced the 1996 tests. CW starts Friday (local) at 4 P.M. February 16, and the Phone section starts Friday (local) at 4 P.M. March 1.

Conditions remain sporadic, 40 meters is still pretty good to Asia. During the DX test weekend, 20 meters as pretty fair, but excellent, 15 meters the same, and I did hear one South American on 10 meters, but I didn't call him. Page 105 of the December 1995 QST gives simple instructions on how to work some DX in the contest. Try it! The Northern Calif. DX Club is still counting votes on the changing of their by-laws to permit any Northern California licensed ham to become a member. The count so far remains around 8 to 1 in favor of the "no countries" "Associate" membership. So it looks as though the by-laws will be changed. Associate membership was tried some years ago, with success. Let me know if you are interested, phone, or write NCDXC, box 608 Menlo Park, CA 94026. I will let you know when we will be receiving applications. **73, Ron, W6VG**

Wrong frequency

ARNS



Miscellaneous Dates

Flea Market at Foothill (6AM - 2PM)
(no Foothill Flea Markets until March '96)

PAARA Palo Alto Amateur Radio Association
meets 1st Friday 7:30 each month, Net 145.230 each Monday 8:30,
contact Jerry Tucker WA6LNV 415-961-3266.

EMARC Electronics Museum Amateur Radio Club
Meets 4th Friday 7:30 each month,
contact Sheldon Edelman 415-858-2176.

NCDXC Northern California DX Club
Meets 2nd Friday each month, repeater for member info 147.360, each
Thursday 8:00PM, contact John Troster W6ISQ 415-854-3939.

NorCalQRP Northern California QRP Club
Meets 1st Sunday each month, contact Jim Cates 3241 Eastwood Rd.,
Sacramento, CA 95821.

Perham Foundation, contact Sy Stein WA6ROM 408-734-4453

SPECS Southern Peninsula Emergency Communication System
Meets each Monday 8:00PM on Net 145.27, 224.36, 440.80 Mhz+
contact Mike Hastings KB6LCJ, 408-243-6745 or 408-249-6909.

SCARES South County Amateur Radio Emergency Service
Meets 3rd Thursday 7:30 each month, San Carlos City Hall.
Net is on 144.45 & 444.50 (PL-100) 7:30 Monday evenings.
contact Dick Collins K6ANN 415-593-8952

Disaster Services, Palo Alto Chapter, American Red Cross
Meets 3rd Wed. each month 7:30PM, HF, packet, BBS, ATV,
OSCAR Gateway, NASA satellite,
contact Ruth Claypool 415-688-0423.

VE Exams, 3rd Saturday each month, 11AM
Ampex Cafeteria, 401 Broadway, R.C.

Palo Alto Amateur Radio Association, Inc. PO Box 911 Menlo Park, CA 94026

President..... Bill Rausch..... AA6PA..... (415) 327-4662
VP..... VicBlack, Jr..... AB6SO..... (415) 366-0636
Secretary..... To Be Filled
Treasurer..... Dave Bailey, WS6W (408) 730-5215
Program Director..... To Be Filled
Trustee/Property/Badges..... Fred Canham, .. K6YT (415) 948-8238
ARES Officer..... Lily Anne Hillis, .. N6PGM (415) 325-5484
Club Historian..... Steve Shuntz, K6FS (415) 322-4952
Raffle Chairperson..... Sy Stein, WA6ROM. (415) 967-0362

Board of Directors

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Fred Canham, K6YT	(415) 948 8238	'97
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Kit Kohlmoos, W6ISO	(415) 366 7813	'96
Bill Smith, KE6CHQ	(415) 366 9173	'96
Sy Stein, WA6ROM	(415) 967 0362	'96
Rich Stiebel, W6APZ	(415) 494 0128	'96
Steve Shuntz, K6FS	(415) 322 4952	'97

PAARAgaphs Staff

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Submit material for PAARAgaphs by the 15th

PAARAgaphs Ad Rates

PAARAgaphs accepts paid advertisements from non-members (short personal ads remain free for members in good standing).

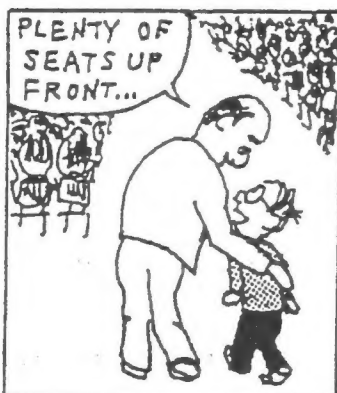
All ad rates listed are per issue only.

1. Not for profit ads by association members for ham-related items and wants. No cost for business card size ads (additional space at \$2.50 per business card size)
2. For Profit organizations and/or individuals: \$5-business card size, \$25-half page, \$50-full page or back cover

These fees may be reduced or waived in exchange for a valuable consideration that is given to the Association or its general membership. Such consideration must be in addition to any existing arrangements with the association.

The PAARAgaphs editors reserve the right to reject any ad deemed to be not in the best interest of the Association. All fees are for "scanner-ready" copy or text-only ads.

ELMER



by Rich Regent, K9GDF

¹ PAARA Palo Alto Amateur Radio Association P.O. Box 911, Menlo Park, California 94026-0911

Club meetings are on the first Friday of each month, 7:30pm at the Menlo Park Recreation Center, 700 Alma Street, Menlo Park, CA. • Radio NET every Monday evening, at 8:30pm, on the 145.230-600 repeater Mhz, PL tone off. • Membership in PAARA is \$6.00 per calendar year which includes a subscription to PAARAgaphs. • Make payment to the Palo Alto Amateur Radio Association.

Permission is hereby granted to reprint from this publication with appropriate source credit.

A Message from Your President

Thank you for your support in electing me to this office. I am both proud and humbled to have been selected by you, the members of this great Club. I hope that I can earn the continuing trust of all of you. I will uphold the traditions and goals of the Club in all the duties that my office entails.

I think that I should make some comments about where PAARA should be heading this year. For those of us who regularly attend the monthly meetings my observation that we aren't getting any younger should come as no surprise. While we still have an effective organization, I'd hate to see it go the way of FARS (Foothill Amateur Radio Society) which disbanded a few years ago. To this end, I ask each of our members to become more actively involved with the Association. Those of you who attended our last monthly meeting well remember **Fred Canham, K6YT's** impassioned speech about we as officers and directors doing a better job. He then volunteered to be a member of the BoD. **Fred** is a shining example of what I mean when I ask for your involvement. He has my admiration and support for his action.

While continuing to fully support our present activities with the Foothill flea market and our own Auction and flea market (where ever it will be in the future), our Picnic and Field Day, I think that it's time to consider other activities to bring more new hams into PAARA and give them satisfying challenges even before they upgrade. To this end, I'll propose two things at this time:

1.) A PAARA no-code Tech licensing class to be held in late February or March '96.

This would be a weekend "cram" style course, with the students being told to buy and study the ARRL's "Now You're Talking" (NYT) starting two weeks before the class is held. Four or five experienced PAARA members would act as instructors, and the class would be held on both Saturday and Sunday from approximately 9 A.M. to 5 P.M. If it's necessary to rent space, the students would be asked to pay a pro-rata amount of the rental. Each instructor would teach one or two chapters in NYT. A Volunteer Examiner group would give the exams on Sunday afternoon, starting at about 3 P.M. Each student would be given a 3 month membership in PAARA, whether or not they passed their exams, and a list of Elmers would be given to each student, for post-course support in getting on the air.

2.) Participation in the ARRL VHF Sweepstakes, this coming January 20-22. I'll refer you to the rules published on p. 107 of the Dec. '95 issue of QST for the details, but essentially, the goal is to contact as many stations in as many grid squares as possible. For those of you not familiar with the grid square method of location, there are many articles in the ham literature about it, and the ARRL publishes a map of the USA which has the squares

marked on it for \$1.00. If you happen to have a Trimble Scout or Scout Master GPS receiver, it will tell you what your square is. The preponderance of PAARA members are in CM87. The club will have a station at a hilltop site accessible by paved road and no more than an hour's travel from Palo Alto, using the club call sign, **W6OTX**. We expect to make the bulk of the club's DX contacts from that site, using 6m., 2m., 1.35 m., 70 cm., 23 cm. and 5cm. I'd like to have 3 or 4 (or more) club members to accompany me to the site and help with set-up, operating and tear-down. Although I most likely will camp at the site, you don't necessarily have to. Now this is where it gets interesting. Since this is an ARRL affiliated club activity, other members can join in the contest activities from their home sites or a field site of their own choosing, and add their scores to that of the main club station for a grand total. Looking over past contest results, I've noticed that there has been little competition in northern California. So, what do you say? An FM handheld mobile or HT rig is all that you need. Drive up to Skyline Blvd. or some other nice overlook and start having fun!

Bill Rausch, AA6P

Congratulations

PAARA 1996

Officers and Board Members

Bill Rausch, AA6PA.....President

Vic Black, Jr., AB6SO..Vice President

Dave Bailey, WS6W.....Treasurer

(remaining officers continue, secretary "to be filled.")

John Buonocore, KD6ZL Board Mem. => '97

Fred Canham, K6YT.....Board Mem. => '97

Steve Stuntz, K6FS.....Board Mem. => '97

♥Gratitude♥

to our retiring Board Members

Koert Koelman, KC6WCI

Dave Meacham, W6EMD

Chris Rempel, N6VZD

Bill Zaner, WB6IYS

Koert Koelman and Vic Black deserve special recognition as acting chairmen the past year, after our failure to elect a President and Vice President. Between their normal round the clock and out of town jobs they managed to chair the Board meetings and keep PAARA running

Editors Note

Ham related or personal articles are always welcome. PAARAgaphs is very short of upbeat notes about individual club members. Many of our members would be interested in activities of other ham clubs. We welcome reports of past events and dates of future events that might be of interest to members.

PAARAgaphs is the only club contact for many of members. There are no reporters on the staff, so member reports are the only local articles we have to print.

If you wish to submit material, e-mail (text or ASCII) or PC text file on disk (3" or 5") saves time, however almost any form can be adapted (no CW please). Photos are scanned by our printer (PIP) so it costs the same for one picture as two pages containing many pictures.

Final layout is a combination of WinWord and cut & paste. We need your contributions.

Wally, K6URO

e-mail Address: wmporter@aol.com

Submit material for PAARAgaphs by the 15th



VE Novembr 18 was the date of VE exams in the Ampex Cafeteria. Next date is December 16, 1995, at 1100 A.M. In November we administered some 24 tests. This was done under the adverse conditions of sharing the facilities with some 80-100 librarian type ladies. I know our CW bothered them, and their voice electronic amplification bothered us. However, we hope we may be able to continue in 1996 to

use the Ampex facilities. It is always an interesting session, but in November we had a small crew on hand. **Joe, WB6OWG** is our main man, and was assisted by **Dan Curry, WB6STW**. **Gene Irazarry, KK6LO**: and **Ron Panton, W6VG**. **Bill Sooman, WB6UVO** of course administered the CW tests. I read with interest, an article in the San Jose Mercury paper of the 10 year old boy in Cupertino who had received his technician license. It is exciting to see the younger applicants appear for their tests.

Ron, W6VG

NAVAL POSTGRADUATE SCHOOL AMATEUR RADIO CLUB

~PRESENTS THE 7th ANNUAL~

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Rain or Shine

7am - 1pm

DOOR PRIZES

SATURDAY, FEBUARY 24, 1996



Radio & Antenna Clinics



HAM Radio Demonstrations:
Voice and CW ATV (Television)
Computers Satellite
Packet MARS

ARES

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CW DX CONTEST

FREE ADMISSION

Location:

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STUDENT CENTER
Monterey, California



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Work Phone 408-449-1090

or write:
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Talk in 146.97 K6LY repeater

AUCTION at 12 noon.

Inside flea market Outside flea market

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1996

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TREASURER REPORT

Dave Bailey, WS6W

Revenues	JULY	AUG	SEPT	OCT	TOTAL 1995
Dues	42	18	6	6	696
Flea Market	129.38	0	0	0	1931.38
AMPEX Auction	0	0	0	1628.06	1628.06
Advertisements	650				
Total	821.38	18	6	1634.06	4905.44
Expenditures					
Stamps/Envelopes	0	0	32	0	128
DMV					43
State of CA					5
City of Menlo Park		150			300
Speaker's Dinner	7.03	26	12	0	80.03
Flea Market					1168.69
AMPEX Auction				194.69	194.69
Meeting Refresh		13.14	17.24	0	74.97
PAARAgaphs	324.53	300.24	312.27	440.64	1846.61
Picnic					160.37
Field Day	416.41		197.17		
Misc.	14	24.97	81.20	57.36	282.56
Total	761.97	514.35	651.88	692.69	4123.55

Checking \$ 4,703.20
Savings \$ 17,592.07

Make your check payable to PAARA

Place your call letters on your check.

Mail to

**PAARA, Treasurer
P.O. Box 911
Menlo Park, CA 94026**

Or bring check or cash to next PAARA meeting.

**Don't be left off the
1996**

Roster & PAARAgaphs Mailing List

Rayovac Renewal Cells

Dave Feldman, WBØGAZ

Rayovac "Renewal" cells are rechargeable alkaline AAA, AA, C, and D battery cells. (Traditional alkaline cells are not rechargeable.) Rayovac offers a proprietary charger for the Renewal line. The cells and chargers are available at retail outlets. I have been using Rayovac Renewal cells for 16 months. The following are my observations:

Advantages:

1. Renewal cells have more charge capacity than same-size NiCad or NiMh cells, *in low-current applications*. The capacity of the AA cell, for instance, is 1400 mA-hour (discharging a new cell to 0.9 volts with a 300 mA load). This figure exceeds NiCad and NiMh AA cells under the same load.
2. Renewal cells feature long shelf life—measured in years vs. weeks with NiCads, or days with NiMh cells).
3. They're already charged when you buy them.
4. Their charged voltage exceeds that of NiCads or NiMh cells—1.5 volts vs. 1.2 volts. So from eight cells, you get 12.0 rather than 9.6 volts.
5. They are priced competitively with NiCads, and below NiMh cells.
6. The charger is fast—two hours, maximum. Also, the charger stops charging each individual cell when that cell is done; there is no risk of overcharging.

The downside:

1. Capacity falls as current drain increases, so Renewal cells are inappropriate in high-current applications. I tried a 3-amp load, and got just 250 mA-hour from the D cells. Their capacity also falls in a variable-current environment, so that even the current pulses in a switch-mode converter may reduce their capacity. The AA cell's

maximum current rating is 400 mA. In contrast, a NiCad or NiMh AA cell can deliver 5 amps.

2. The charger is specific to Rayovac Renewal cells, and it requires 117 VAC. (To charge from your car, you need an inverter.) Building a charger wouldn't be easy; a special IC controls the charge cycle, using a pulse scheme that measures cell voltages between pulses.
3. Renewal cells can't be charged in a series configuration, so you must remove them from your equipment for recharging. This fact precludes a Rayovac "9-volt transistor" battery. (Rayovac is promoting integration of their charger technology into commercial battery-powered devices, but I've yet to see such an arrangement.)
4. You must wait for the "last" cell to finish when charging a group, because you need a fully charged set. My charger can charge eight cells simultaneously, though.
5. The charge a cell can store declines with use. I'm still using Rayovac Renewal D cells in a flashlight after 30 cycles. The flashlight no longer lasts as long, but it remains useful.

QRP observations

For a QRP rig, with its low transmit current, these cells work well. I use them in an old IC-2AT and in a Standard C108A that uses two AA's. The higher voltage increases my transmit power, and Renewal cells eliminate the problem of a dead HT due to self discharge.

Because of their long charged shelf life, I recommend them for emergency equipment; they will keep their charge for several years of storage, yet be quickly rechargeable for sustained operation.

from the January '95 Colorado QRP Club "The Low Down"—Rich High, WØHEP, Editor. (Open to all hams. Annual dues \$10, c/o Mark Meyer, 14153 W. First Dr. Golden, CO 80401)

Forty Meter

Directional System

(continued from December 95, issue)

In retrospect, there are two design issues with the feed system for the antenna.

First, the use of the 100 ohm resistor in the Wilkinson hybrid is probably a waste of time, and likely a waste of RF. It does tend to improve the SWR, since it acts as a dummy load of sorts. The use of the Wilkinson hybrid was in the original design of the "4 Square" antenna by W1CF, and has since fallen out of favor.

The second issue is that the length of the feedlines to the two antennas can impact the pattern. This is true even if you make them the same length to the delay line switch box. When using a 90 degree phase delay between the two verticals, there is significant interaction with element current magnitude and phase with as a function of feeder length. In particular, the pattern with "+90 degree" phasing can be quite different than the "-90 degree" pattern. The forward gain does not change much, but the front-to-back can really be lousy in one direction. The 0 degree and 180 degree patterns are not affected and will be fine regardless of overall line length.

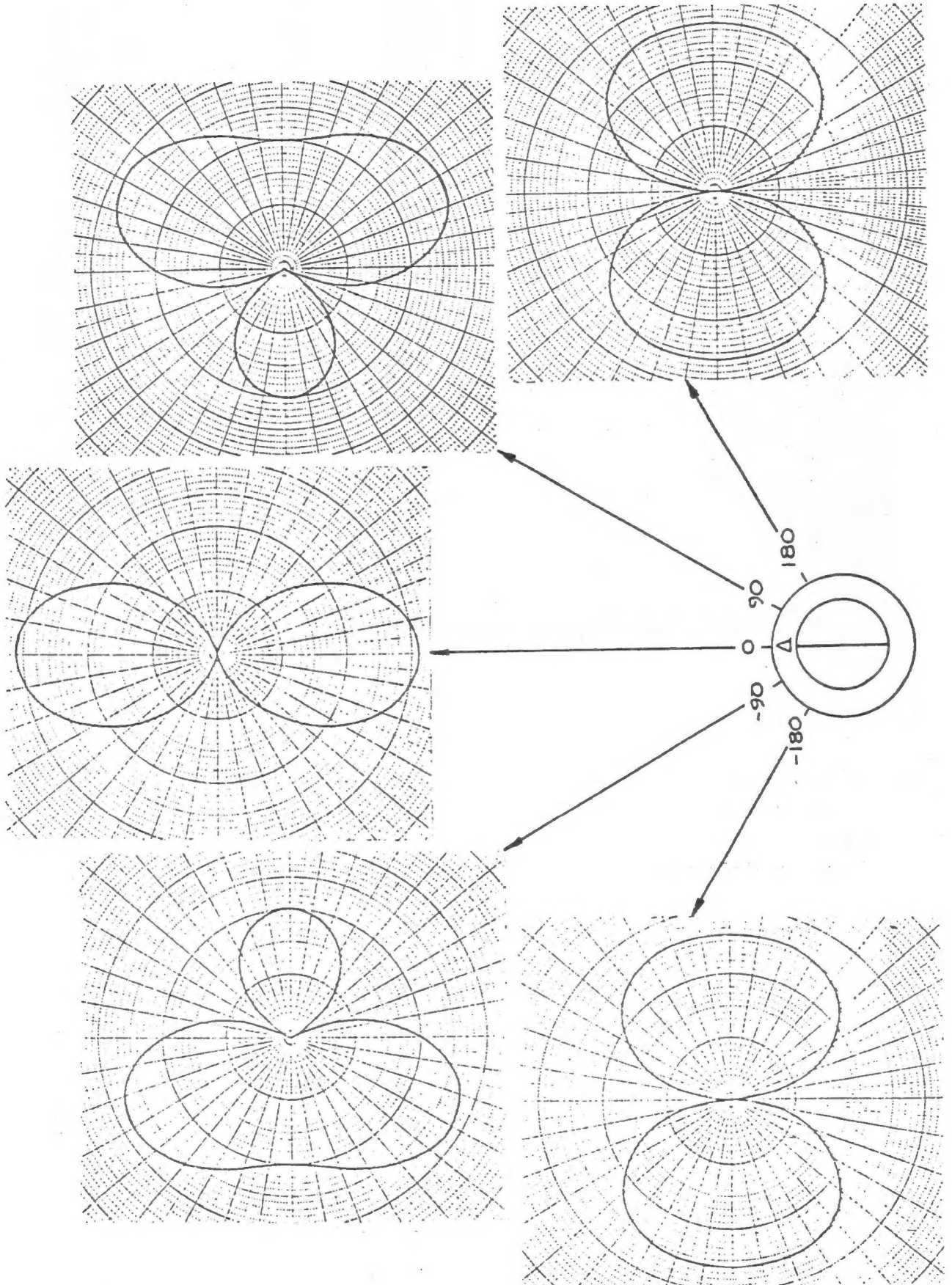
More elegant feeder schemes have been designed by W7EL and others. I think Roy had an article in the first ARRL Antenna Compendium that explains all of this. I heartily recommend his EZNEC for antenna analysis in general and particularly for phased array systems.

What's amazing is how well it worked in our (my) ignorance. That glorious salt water covers lots of mistakes!

73, Terry, N6RY

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Figure 1

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